Updates and Plans on
BSM Software/Data Integration Task

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- In Mar. 5th, we've delivered our list of production request to the ND group.

Date	Priority	Requester	Beam	Generator	Volume	Detector	Offset	Sim	Version	Output	Events	Storage	Notes	
Feb 24 2021		4 Chris Marshall, also Mastbaum/ND-LAr	FHC	GENIE	Rock	ND-LAr	0m	G4	GENIE 2.12.10 + edep-sim	rock_prop agation, edep-sim	6M events in ND-LAr	50 GB	no idea	<2 GB
Feb 24 2021		1 Chris Marshall for TMS/D1ND WG, , also Mastbaum/ND-LAr	FHC	GENIE	ND-LAr active	ND-LAr + TMS	0m	G4	GENIE 2.12.10 + edep-sim Jeremy version	GENIE, edep-sim	1E20 POT	few TB		<2 GB
Mar 10 2021		2 ND-LAr + TMS WG	FHC	GENIE	ND-LAr inactive	ND-LAr + TMS	0m	G4	GENIE 2.12.10 + edep-sim Jeremy version	GENIE, edep-sim	5E19 POT	few TB		< 2 GB
Mar 10 2021		3 TMS WG	FHC	GENIE	TMS	ND-LAr + TMS	0m	G4	GENIE 2.12.10 + edep-sim	GENIE, edep-sim	1E19 POT	few TB		
Mar 10 2021		5 ND-LAr + TMS WG	RHC		repeat above 3 samples but in RHC	ND-LAr + TMS								
Mar 1 2021	medium	Cheryl & Mateus (Interactions WG)	FHC, RHC (but FHC first)	GENIE	ND-GAr active		0m		GENIE 2.12.10 + edep-sim	GENIE, edep-sim	1.00E+21			
Mar 1 2021		Cheryl & Mateus (Interactions WG)	Just nue / nue-bar component	GENIE	ND-LAr active	ND-LAr	0m	G4	GENIE 2.12.10 + edep-sim	Might be enough the 1E20 full beam requirement, need to check				
Mar 2 2021	medium	BSM-LDM, Wooyoung Jang/Jae Yu	other (LDM, dark matter flux)	GENIE	ND-LAr active	ND-LAr	0 m	G4 (det+ reco would be great)	GENIE 3.0.6 with BDM module	GENIE, edep-sim	1E20 POT	~10 GB	no idea	< 2 GB
Mar 2 2021	medium	BSM-LDM, Wooyoung Jang/Jae Yu	other (LDM, dark matter flux)	GENIE	ND-LAr active	ND-LAr	36 m	G4 (det+ reco would be great)	GENIE 3.0.6 with BDM module	GENIE, edep-sim	1E20 POT	~10 GB	no idea	< 2 GB
Mar 2 2021	higher	BSM-LDM, Wooyoung Jang/Jae Yu	FHC+RHC	GENIE	ND-LAr active	ND-LAr	0 m	G4 (det+ reco would be great)	GENIE 3.0.6 + edep sim	GENIE, edep-sim	1E20 POT	~50 GB	no idea	< 2 GB
Mar 2 2021	medium	BSM-LDM, Wooyoung Jang/Jae Yu	FHC+RHC	GENIE	ND-LAr active	ND-LAr	36 m	G4 (det+ reco would be great)	GENIE 3.0.6 + edep sim	GENIE, edep-sim	1E20 POT	~10 GB	no idea	< 2 GB
Mar 4 2021	high	BSM-Sterile, Wallbank/Sousa	Swapped numu->nue FHC+RHC (with single nue in interaction volume per spill)	GENIE	ND-LAr active	ND-LAr	0m	G4 (det+ reco would be great)	GENIE 3.0.6 + edep sim	GENIE, edep-sim	1 year (1.1E21 POT)	~100 GB	Not known	Not known
Mar 4 2021	high	BSM-Sterile, Wallbank/Sousa	Swapped numu->nutau FHC+RHC (with single nutau in interaction volume per spill)	GENIE	ND-LAr active	ND-LAr	0m	G4 (det+ reco would be great)	GENIE 3.0.6 + edep sim	GENIE, edep-sim	1 year (1.1E21 POT)	~100 GB	Not known	Not known
Mar 4 2021	higher (needed to develop framework)	BSM-Sterile, Wallbank/Sousa	Swapped numu->nue FHC+RHC	GENIE	ND-LAr active	ND-LAr	0m	G4 (det+ reco would be great)	GENIE 3.0.6 + edep sim	GENIE, edep-sim	1E20 POT	~10 GB	Not known	Not known
Mar 4 2021	higher (needed to develop framework)	BSM-Sterile, Wallbank/Sousa	Swapped numu->nutau FHC+RHC	GENIE	ND-LAr active	ND-LAr	0m	G4 (det+ reco would be great)	GENIE 3.0.6 + edep sim	GENIE, edep-sim	1E20 POT	~10 GB	Not known	Not known
Mar 4 2021	high	BSM-nutau, Rajaoalisoa/Sousa	nutau FHC using a flux that goes as (1/ nutau CC cross section) so as to get flat energy nutau CC spectrum from 0-60 GeV	GENIE	ND-LAr active	ND-LAr	0m	G4 (det+ reco would be great)	edep-sim (using Pythia8 for decaying the taus if possible)	edep-sim (using Pythia8 for decaying the taus if possible)	1.1E21 POT	~100 GB	Not known	Not known
Mar 4 2021	high	BSM-nutau, Rajaoalisoa/Sousa	numu FHC using a flux that goes as (1/ numu CC cross section) so as to get a flat energy numu CC spectrum from 0-60 GeV	GENIE	ND-LAr active	ND-LAr	0m	G4 (det+ reco would be great)	edep-sim	edep-sim	1.1E21 POT	~100 GB	Not known	Not known
Mar 4 2021	high	BSM-nutau, Rajaoalisoa/Sousa	nue FHC using a flux that goes as (1/ nue CC cross section) so as to get a flat energy nue CC spectrum from 0-60 GeV	GENIE	ND-LAr active	ND-LAr	0m	G4 (det+ reco would be great)	edep-sim	edep-sim	1.1E21 POT	~100 GB	Not known	Not known
Mar 8 2021	medium	Cheryl & Mateus (Interactions WG)	FHC, RHC (but FHC first)	GENIE	ND-GAr inactive (ecal, yoke etc)		0m		GENIE 2.12.10 + edep-sim	GENIE, edep-sim	1.00E+20			
Mar 8 2021	high/medium	Eldwan Brianne	FHC/RHC	GENIE	ND-LAr active	ND-LAr + ND-GAr-Lite	0m	G4	GENIE 2.12.10 + edep-sim	GENIE, edep-sim	1E20 POT	~100 GB		<2 GB	Note from A. Mastbaum: ND-LAr prefers "edep-sim Jeremy version" here
Mar 8 2021	high/medium	Eldwan Brianne	FHC/RHC	GENIE	ND-LAr active	ND-LAr + ND-GAr	0m	G4	GENIE 2.12.10 + edep-sim	GENIE, edep-sim	1E20 POT	~100 GB		<2 GB	Note from A. Mastbaum: ND-LAr prefers "edep-sim Jeremy version" here
Mar 8 2021	medium	A. Mastbaum (ND-LAr)	Cosmic	CORSIKA	Rock + ND-LAr	ND-LAr	0 m	G4	CORSIKA + edep-sim	CORSIKA, edep-sim	~100k				CORSIKA to edep-sim interface via HepEvt (based on NOvA's) is being tested now
Mar 15 2021	medium	BSM-HNL group	FHC+RHC	GENIE	ND-LAr active	ND-LAr + ND-GAr	0 m	G4 (det+ reco)	GENIE + edep sim	GENIE, edep-sim	1E20 POT	~50 GB	no idea	not known

- Also, I have been communicated with ND group noticing them we've updated our production requests to their list and they appreciated our contribution to the list and asked us to keep update the list whenever any additional production request newly happens.

ND Production List

- Therefore, I believe that the demand survey for this production request will continue for some time.

- So I would like to advertise again that you can always update our list: https://docs.google.com/spreadsheets/d/1-K5iJ_2-bP8pWULMpTEb8JyhUS7O49Iym63IlaI5Rdo/edit#gid=0 whenever you find your needs of ND data production.

  - Please feel free to fill up the list.

  - and just let me know when you made some updates on the list.

List of Liaisons for the BSM SW/Data Integration Task

- HNL study

  - Athanasios Hatzikoutelis

- Sterile υ

  - Alex Sousa – Sterile/LED

  - Mike Wallbank – Sterile/CAF

  - David V. Forero – Sterile/LED/GloBES

- Neutrino Trident

  - Justo Martín-Albo

- NSI

  - Cerio A. Moura

- LDM

  - Wooyoung Jang

- Thanks for your participation.

- I would like to listen to your thoughts on whether we are good to start with this member. (or am I missing anyone from other important topical groups?)